

CLAIMS

What is claimed is:

1. A coated microporous membrane comprising a microporous membrane with a coating of breathable material which augments a liquid penetration resistance of the membrane while maintaining transport of moisture vapor.
2. A membrane according to claim 1 wherein the coating is a urethane polymer or a hydrophilic cellulose.
3. A membrane according to claim 2 wherein the membrane is any one of polyethylene, polypropylene, polyurethane, PTFE, aramid, or nylon.
4. A membrane according to claim 1 wherein the membrane is any one of polyethylene, polypropylene, polyurethane, PTFE, aramid, or nylon.
5. A membrane according to claim 1 wherein a mean pore size of the membrane is in the range of 0.1 - 5.0 microns, and the membrane has a thickness in the range of 10 - 100 microns.
6. A membrane according to claim 5 wherein the coating has a thickness in the range of 0.5 – 10 microns.
7. A membrane according to claim 5 wherein the thickness of the membrane is greater than a thickness of the coating.
8. A membrane according to claim 1 wherein augmentation of the liquid penetration resistance of the membrane by the coating of breathable material provides a capability of the membrane to pass ASTM 1670 and ASTM 1671 or similar Standards for Medical Products such as Surgical Gowns.

9. A membrane according to claim 1 wherein augmentation of the liquid penetration resistance of the membrane by the coating of breathable material provides a capability of the membrane to pass a testing for chemical penetration per ASTM 903 when tested with chemicals per ASTM 1001, Chemical Warfare / Terrorist Chemicals, and other Industrial chemicals used in agriculture.

10. A membrane according to claim 1 wherein augmentation of the liquid penetration resistance of the membrane by the coating of breathable material provides a capability of the membrane to exhibit improved permeation resistance as tested by ASTM 739 test or similar test for chemical objectives per ASTM 903 when tested with chemicals per ASTM 1001, Chemical Warfare / Terrorist Chemicals, and other Industrial chemicals used in agriculture.

11. A membrane according to claim 1 wherein augmentation of the liquid penetration resistance of the membrane by the coating of breathable material provides a capability of the membrane to exhibit improved penetration resistance as measured by ASTM 903 or similar Liquid Barrier Tests for blood and/ or urine while maintaining moisture vapor transmission as used in Feminine Hygiene, Incontinence Products and Diapers.

12. A membrane according to claim 1 wherein the coating extends over a portion of the microporous membrane, while being absent in a further portion of the microporous membrane.

13. A hybrid microporous membrane comprising layers of material, disposed one upon another, wherein a first of said layers of material comprises a breathable film impeding passage of liquid water while communicating water vapor, and a second of said layers of material comprises a microporous membrane having pores extending through the microporous membrane with a mean pore size in the range of 0.1 - 5.0 microns, and wherein the breathable film has a thickness in the range of 0.5 – 10 microns.